

DSU-FR EMULATOR

DSU-FR CABLE

SMALL CABLE For DSU3

MB2198-201

OPERATION MANUAL

PREFACE

Thank you for purchasing the DSR-FR cable small cable for DSU3 (MB2198-201, referred to as "small cable") for the DSU-FR emulator.

The DSR-FR cable small cable for DSU3 is used to connect the DSU-FR emulator (MB2198-01, referred to as "emulator") and the DSU-FR cable (MB2198-10) to a user system. That uses Fujitsu FR family micro controller (DSU3 Interface loading) to a user system.

This manual explains the handling of the DSR-FR cable small cable for DSU3 for the DSU-FR emulator.

Before using the MB2198-201, be sure to read this manual.

Consult the Sales Department or the Support Department of Fujitsu Limited for mass-produced MCUs and evaluation MCUs.

■ Handling and use

The handling and use of this product and notes regarding safety are included in the hardware manual of the DSU-FR emulator and DSR-FR cable operation manual.

Follow the instructions in "DSR-FR EMULATOR MB2198-01 HARDWARE MANUAL" and "DSR-FR EMULATOR DSR-FR CABLE MB2198-10 OPERATION MANUAL" for the use of this product.

■ Caution of the products described in this document

The following precautions apply to the product described in this manual.



The wrong use of a device will give an injury and may cause malfunction on customers system.

Cuts	This product has parts with sharp points that are exposed. Do not touch edge of the product with your bare hands.
Damage	Please unite correctly the camfering portion of an emulator interface connector, and the camfering portion of a user system connector. If it mistakes, there is a possibility of becoming the cause of failure of an emulator system and a user system.

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1. Checking the Delivered Product

Before using the DSU-FR cable small cable for DSU3, confirm that the following components are included in the box:

- Small cable*¹ :1
- Emulator interface connector *² :1
- Operation manual (Japanese version) :1
- Operation manual (English version, this manual) :1

*1 : Small cable is mounted on user system connector (Type:SICA2P20S (Tokyo Eletech Corporation)).

*2 : It is the connector (Type:SICA2P20HD (Tokyo Eletech Corporation) mounted on a user system.

This connector can be purchased separately (Type:SICA2P20HD05 (Tokyo Eletech Corporation, Five-piece on)).

This product is used by combining with an optional " DSU-FR EMULATOR (MB2198-01) " (sold separately) and DSU-FR CABLE (Type:MB2198-10) .

Consult the Sales Department or the Support Department of Fujitsu Limited for Evaluation MCUs.

2. Handling Precautions

The Small cable is precision-manufactured to improve dimensional accuracy and to ensure reliable contact. The header is therefore sensitive to mechanical shock. To ensure correct use of the header in the proper environment, observe the following points regarding its insertion and removal:

- To avoid placing stress on the Emulator interface connector mounted on the user system board during connecting the small cable.

3. Notes on Designing

■ Restrictions of PC board for the user system

Once the small cable is connected to the user system, the heights of parts mounted in the space around the small cable are restricted.

The PC board of the user system must be designed with due consideration given to this restriction.

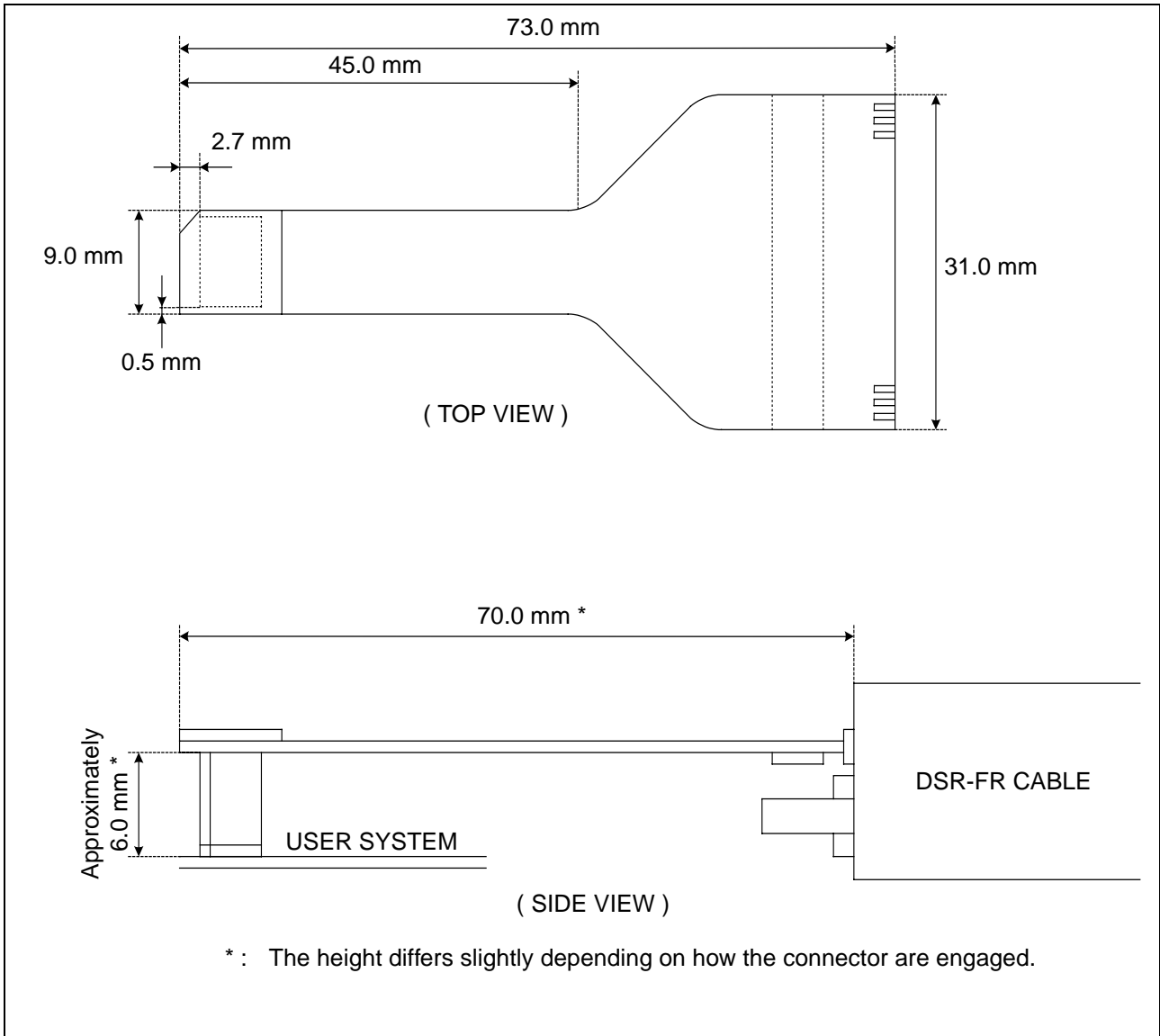


Figure 1 Small Cable Dimensions

■ **EMULATOR INTERFACE CONNECTOR footprint design notes**

Figure 2 shows the recommended dimensions of the Emulator interface connector footprint mounted on the PC board of the user system.

The PC board of the user system must be designed with due consideration given to this footprint. For more information, contact the Tokyo Eletech Corporation.

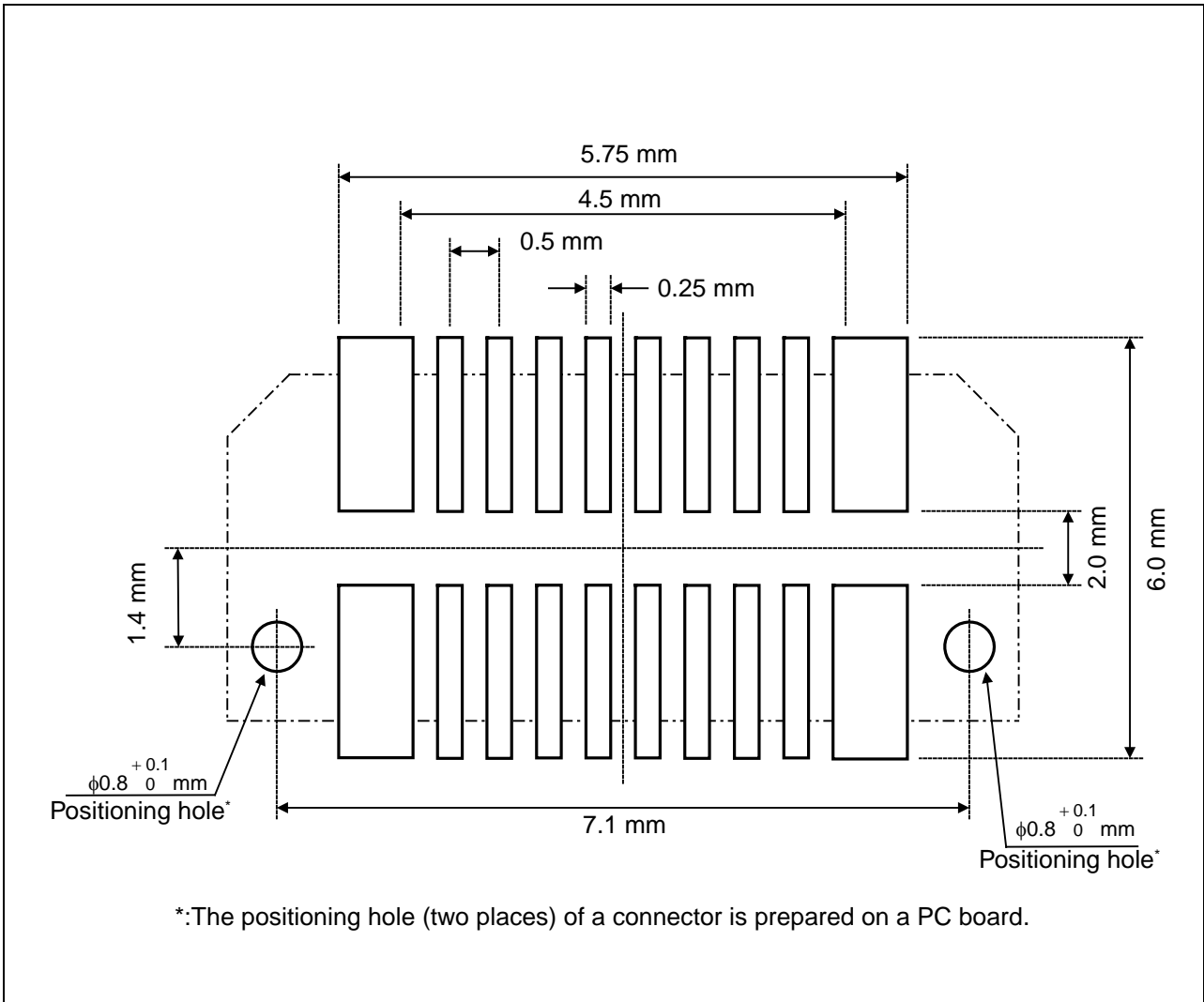


Figure 2 Recommended Dimensions of the Footprint for Mounting the EMULATOR INTERFACECONNECTOR

4. Procedure for Connecting the DSU-FR CABLE

■ Connection

Please remove the cable (FPC cable or flat cable) connected to the DSU-FR cable before using this product.

The case where a small cable is connected, please pull out a movable piece (white portion) with the FPC cable connector bottom, and push in a plug and a movable piece for a small cable.

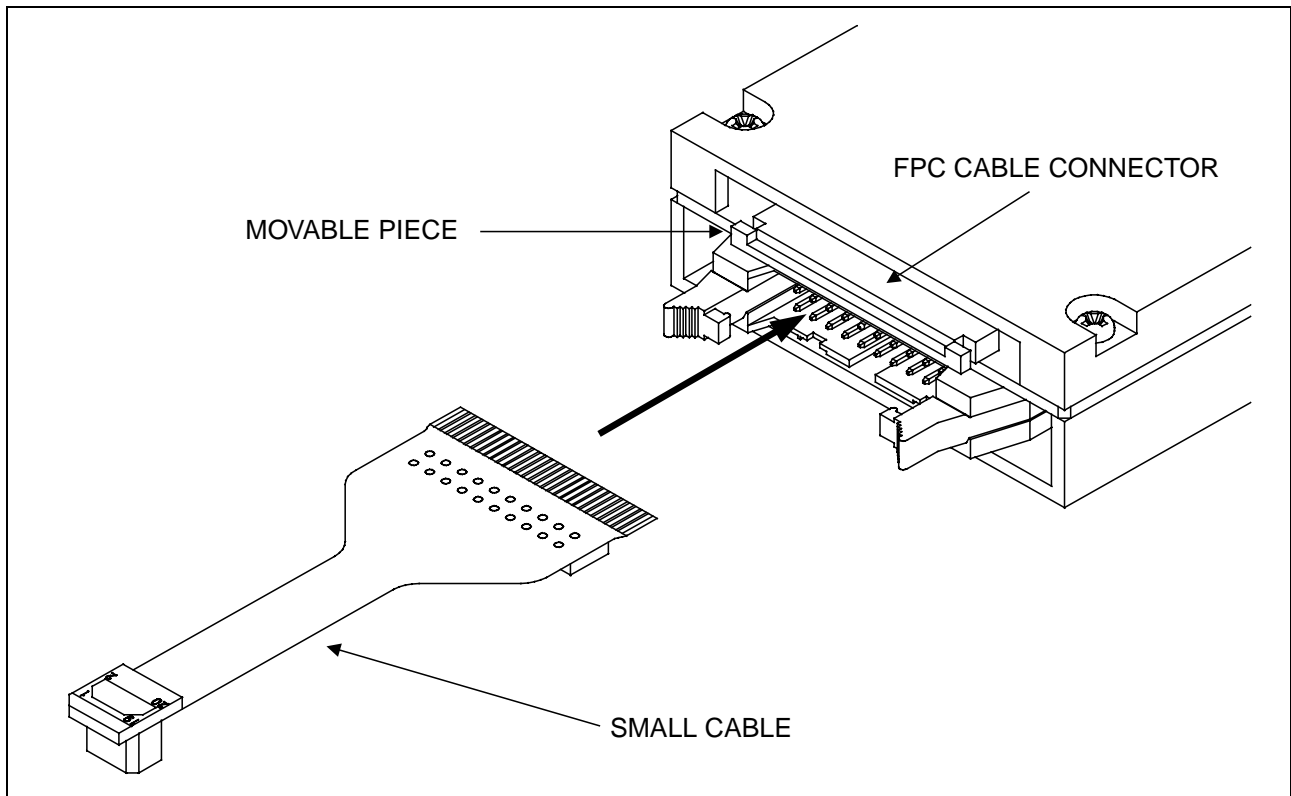


Figure 3 Connecting Small Cable and DSR-FR Cable

■ Disconnection

The case where a small cable is removed, please pull out a movable piece (white portion) with the FPC cable connector bottom, and push in removal and a movable piece for a small cable.

5. Procedure for Connecting the User System

■ Connection

Before using the DSU cable small cable for DSU3, this product is appended mount the supplied Emulation interface connector on the user system.

To connect the small cable to the user system, match the position of the Camfering portion of an emulator interface connector mounted on the user system with the position of the Camfering portion of the user system connector mounted in the small cable is united and then insert it perpendicularly (see Figure4) .

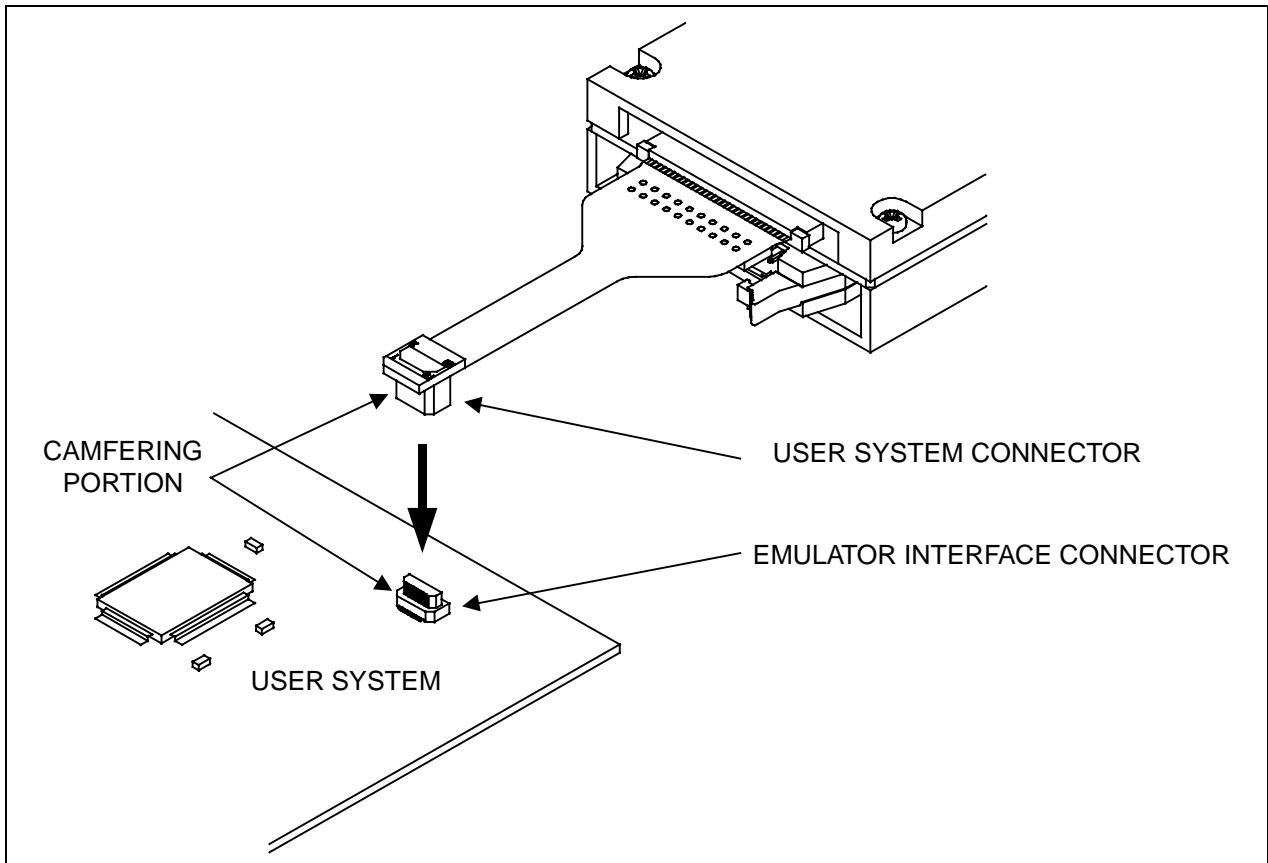


Figure 4 Connecting Small Cable and User System

■ Disconnection

To remove the small cable, please draw out a user system connector perpendicularly from an emulator interface connector for load not to join the emulator interface connector mounted on the user system.

6. User System Connector Pin Assignment

■ Pin assignment

Table 1 User System Connector Pin Assignment

PIN No.	PIN name	Input / output	Function	Description
20	ICLK	Input	Emulator control	<ul style="list-style-type: none"> Connects with the same name of Evaluation MCU. Maximum wiring length is 50 mm.
18	ICS[0]	Input		
17	ICS[1]	Input		
16	ICS[2]	Input		
14	ICD[0]	Input and output		
13	ICD[1]	Input and output		
12	ICD[2]	Input and output		
11	ICD[3]	Input and output		
10	BREAK	Output		
7	INITX	Output	Evaluation MCU reset	<ul style="list-style-type: none"> Connects with the reset pin of Evaluation MCU. Separate wiring between evaluation MCU reset pins from the reset output circuit on a user system at the time of emulator use. Effective with the "L" output. Open drain output. 10 kΩ pull-up resistance built-in using the UV_{CC} pin. (V_{OL} = +0.4 V max, I_{OL} = 12 mA)
6	xRSTIN	Input	User system reset	<ul style="list-style-type: none"> Connects with the reset output circuit of a user system. Effective in the "L" input. (V_{IH} = +1.7 V min, I_{IH} = -10 μA) (V_{IL} = +0.8 V max, I_{IL} = 10 μA)
4	UV _{CC} *	Input	User system power supply	<ul style="list-style-type: none"> Connects with the external I/O power supply of Evaluation MCU. (0 V to +5.5 V / 100 mA less)
9,15,19	GND	-	GND	<ul style="list-style-type: none"> Connects with the V_{SS} pin (0 V) of Evaluation MCU.
1,2,3,5,8	N.C.	-	-	<ul style="list-style-type: none"> Since it is intact, it opens.

*:When Evaluation MCU is a single power supply, please connect with a V_{CC} pin, and in the case of two or more power supplies, connect with an external I/O power supply.

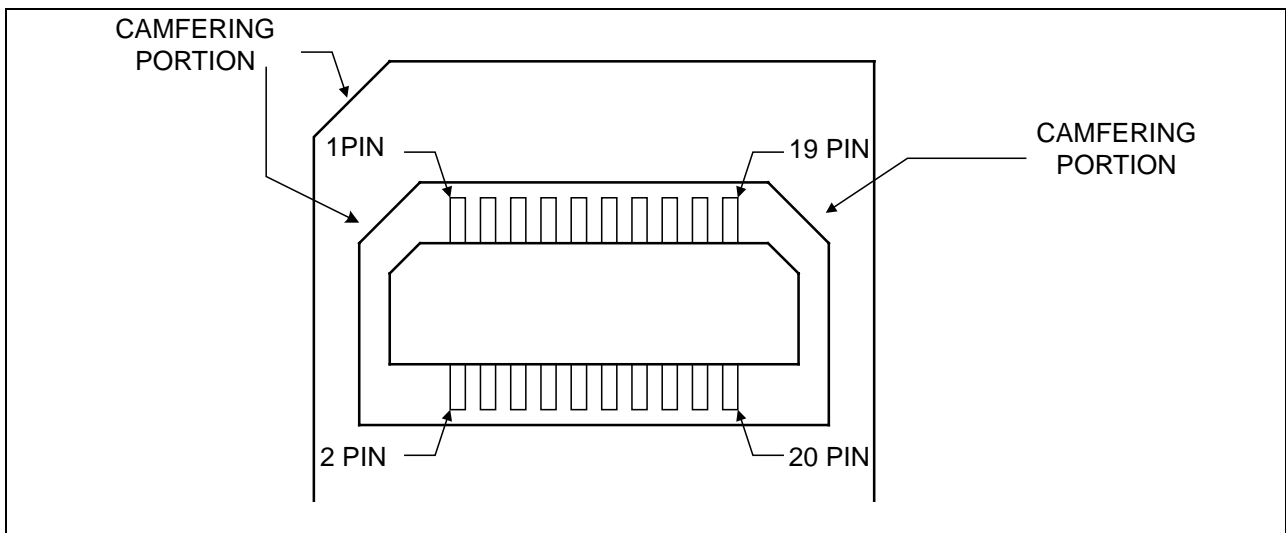


Figure 5 User System Connector Form

SS01-71042-2E


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